



**Oil and Gas Related RMP Suggested Comments
By Topic**

Overall Message to Communicate 1

Technical Analysis 2

Natural Disaster Risks 3

Human Health 4

Economic Development/Jobs 4

Hunting and Fishing and Recreation 5

Mapping 5

Emergency Management 5

Pipeline Safety and Integrity Management 6

Roads and Traffic 7

Food Security/Agriculture: 7

Cost to Local Government 7

Climate change 7

Contradictions within the RMP 8

The human and community dynamic 8

Overall Message to Communicate

- **BLM proposes to lease 95% of the North Fork's public lands to oil and gas, but did not consider a no-leasing alternative.**
 - Much has changed since the North Fork Alternative Plan (NFAP) was developed by the community and submitted in 2012 and 2013. The NFAP provides the best protections of the alternatives being considered. **However, the BLM did not consider all *reasonable* alternatives, including the possibility of not leasing our public lands at all.**
 - In light of new research and studies on the impacts that oil and gas has on human health, environmental resources like air and water, as well as the impacts of climate change, **a no leasing alternative is not only reasonable, but represents the best way to protect the North Fork Valley now and in the future.**
- **BLM failed to produce a balanced plan** that took into consideration new horizontal drilling and multi-stage fracking technologies. This relatively new drilling technology involves a far greater magnitude of impacts,

including: double the surface impacts of conventional drilling; up to a 333% increase in air pollutant emissions involving 12 more tons of VOCs and 1 additional ton of HAPs *per well*; 5-10 times more water; as well as increased noise, larger waste volumes, habitat fragmentation and loss, and thousands of additional round trips of truck traffic per well. BLM's proposed plan opens 95% of the Uncompahgre planning area to oil and gas leasing and development.

- **BLM did not take a hard look** at direct, indirect, and cumulative impacts, as required by NEPA, including:
 - BLM failed to meaningfully analyze greenhouse gas emissions and the impacts of climate change, including the severity of these impacts and social cost of carbon;
 - BLM failed to consider impacts of human health, and should have performed a comprehensive health impact assessment ("HIA");
 - BLM failed to consider various drilling technologies, including horizontal drilling and multi-stage fracking in its analysis;
 - BLM failed to consult with the Pipeline Hazardous Materials and Safety Administration and failed to consider the potential impacts that an exemption from safety rules would have on human health, the environment, and wildlife.
 - BLM did not properly analyze methane and other air pollutants, or consider mitigation measures to reduce these impacts.

Technical Analysis

- **The BLM did not consider hydraulic fracturing and multi-stage drilling technologies.** The RMP oil and gas assumptions are based on conventional oil and gas drilling. Despite the fact that the BLM's lack of consideration of hydraulic fracturing has been the basis of successful lawsuits, that BLM attempted to regulate hydraulic fracturing, and considers the effects of hydraulic fracturing in other EIS' the BLM did not consider it here which is a fatal flaw in its analysis.
- **BLM relies on a 2004 study in its 2013 Foreseeable Development Scenarios**, which does not consider hydraulic fracturing and multi-stage drilling technologies. This renders its development projection inaccurate and misleading, as the number of wells, laterals, and supporting infrastructure is likely to be much higher, which the analysis does not support.
- **The draft RMP does not consider the cumulative effect** that the level of fluid mineral extraction (drilling) outlined in the Reasonably Foreseeable Development Scenario will have on existing domestic and commercial water supplies, including springs, wells or surface irrigation water.
- **The NFAP is tacked onto the 'conservation' alternative B, as a sub-alternative B1.** All parts of the planning area not covered in the NFAP are overlaid with alternative B. This makes it appear that the NFAP and alternative B1 are much more restrictive than the public intended, since the public only proposed to protect the North Fork Valley. By tacking the NFAP onto alternative B, it appears that the public proposed to remove 95% of the entire planning area from being available for leasing. If overlaying the NFAP onto another alternative is their way of analysing the plan, they should overlay the NFAP over each alternative, so its effect on each proposed plan can be accurately evaluated. Otherwise, it appears that the BLM just tacked the NFAP onto the conservation alternative as a matter of protocol, without giving it serious consideration.
- **Water**
 - BLM did not consider the permanent removal of water from the hydrologic cycle and that there are insufficient water supplies necessary to support fracking and other drilling operations, particularly in this period of persistent drought.

- Irrigation water and infrastructure
 - Risk of contamination to irrigation water and crops from:
 - Fracking chemical contamination of ground and surface waters
 - Damage to irrigation canal access and bridges
 - Airborne volatile organic compounds
 - Airborne silicates
 - Silting in of rivers and irrigation ditches
 - Increases in diesel exhaust from transportation, well and compressor sites
 - Risk of loss to irrigation shares for multiple irrigation ditches in the North Fork.
- Drinking Water
 - Risk to drinking water supplies for North Fork communities, potentially affecting 30,000 + people.

- **Air Quality/Pollution**

- BLM did not consider that their own modeling of ozone levels in the Bull Mountain area exceed EPA thresholds of 70 ppb

Natural Disaster Risks

- **The draft RMP did not address possible environmental disasters caused by or affecting fluid mineral development.** It is possible that wastewater injection wells can cause seismic activity. There is no mention of this in the RMP. It is also possible that naturally occurring mudslides and avalanches could affect the safety and integrity of extraction infrastructure. There was a close call on May 25, 2014, when a mudslide came within feet of burying a well pad near Colbran, Co. and killed three people. The West Elk Mountains are geologically unstable and these issues should be mentioned in the RMP to provide a basis for future EIS's to address these risks.
- **The draft RMP does not adequately address the possibility of explosions, or lightning strikes, and the risk that these events can pose** to nearby residences, structures, property and other natural resources when natural gas and other explosive materials are involved. The planning area is often subject to drought conditions, in which fires can quickly get out control. The RMP states that “mineral resource development...would introduce additional ignition sources into the planning area, which...could increase the potential for high-intensity wildland fires.” (4-482) That is the extent of their mention of the issue, in their “unavoidable adverse impacts” section. We can avoid this dangerous risk by designating places where wildfires are a risk as unsuitable for fluid mineral extraction.

Human Health

- **The draft RMP does not adequately address human health impacts.** The only mention of potential health impacts is that “energy and mineral development...includes inherent risks for workers and the public related to safety during construction and operation, as well as the potential introduction of hazardous materials that could impact human health should exposure occur. Introduction of hazardous materials could indirectly affect health due local air, soil, or water contamination” and “Contaminated surface waters pose health risks to recreational users who may come into contact with those waters. Development activities in the vicinity of drinking water aquifers (groundwater) pose a risk of contaminating those aquifers and causing health impacts on groundwater consumers.” (Page 4-445) The document makes no mention of the effect that water contaminated with

mineral salts, chemical additives, dissolved hydrocarbons, toxic metal ions, and radioactive materials will have on human health, agriculture, or livestock. The comments regarding air quality are even more vague.

- Risk to human health from exposure to chemicals associated with oil and gas development including burning eyes, difficulty breathing, cough, nosebleed, anxiety, headache, dizziness and nausea, as well as birth defects, potential development of chronic diseases including damage to cardiovascular, respiratory, immune or endocrine systems. Risk to public health from airborne contaminants, ozone, particulates, VOC's and radioactive particles, as well as contamination of ground and surface water sources.
- Impacts from noise pollution negatively affect human quality of life
- **See Human Health Impact Fact Sheet**

Economic Development/Jobs

- The draft RMP repeatedly states that, at the projected rate of fluid mineral development outlined in the Reasonably Forseeable Development Scenario, oil and gas development would not have a significant impact on regional employment or the economy. It makes some mention of severance taxes but does not give estimates of what the income amount could be. It states that current employment in the planning area by oil and gas is less than .01%, and is not expected to increase to greater than 1%. "Across all alternatives, for natural gas development, the economic contributions to the planning area represent a small fraction of jobs and income." (Page 4-462)
- "Agriculture represents 3.6% of jobs in the planning area...The North Fork Valley represents a region where traditional agricultural uses have maintained importance due to the presence of organic and conventional small-scale farms, orchards, and wineries. Delta County is home to the highest concentration of organic farms of any Colorado county." (4-459)
- The Outdoor recreation economy is \$674 Billion in consumer spending, which is almost double the pharmaceutical industry and only 25% less than the financial services and insurance industries. Outdoor recreation also employs 3x the number of people in the oil and gas industry.
- Oil and gas development in the NFV will destroy the beauty of the landscape, which is critical to the tourist, sportsmen and recreationalist's experience. No one wants to drive, hike or mountain bike past wastewater ponds, condensate tanks, storage tanks, gas wells, sand trucks and more on their way to a healthy, natural experience.

Hunting and Fishing and Recreation

- The BLM did not adequately consider the impact of industrial oil and gas operations, air pollution and water contamination on the health of wildlife animals, nor the impact on the hunting and fishing economy. Oil and gas development in the NFV will fragment the wildlife habitat and negatively impact the big game population as well threaten the health of the animals, rendering the meat consumed from the hunted animals unhealthy.
- Impacts on hunting due to changes in wildlife migration and reproduction habits.
- BLM did not consider the decreased recreational value of BLM lands from industrial oil and gas activities.
- Proximity damage to Wilderness, Wilderness Study Areas and National Parks.
- Impacts from noise pollution, negatively affecting wildlife, and bird migration patterns.

- Impacts from light pollution from drilling rigs on wildlife and recreational expectations and experience

Mapping

- **The BLM did not map of the planning area's hydrology**, which makes it difficult for future project EIS's to predict the impact of fluid mineral development on private and commercial water sources.

Emergency Management

- **The draft RMP does not address how fluid mineral development would strain local emergency services** such as volunteer fire, ems and rescue groups. In the fall of 2015, there was a report of flames in the forest alongside Hwy 133. Paonia Volunteer Fire Dept was dispatched to the scene, over an hour's drive from their station. It turned out that one of the wells was flaring gasses and hadn't notified the local authorities as they were required to. This had the effect of wasting volunteers' time and could have been detrimental if there had been a real emergency during the time the fire department and it's equipment was tied up investigating this false alarm. If there were a true emergency, where is the nearest HAZMAT team that is qualified to deal with oil and gas spills? What is the response time? The specifics should be determined in project EIS's but the issue needs to be mentioned in the RMP that guides them.

Pipeline Safety and Integrity Management

- BLM did not consider the impact of extreme weather causing flooding, mudslides and geological instability, which can compromise the integrity of pipelines and result in leaks and potential explosions.
 - Example: The nation's pipeline system also faces a greater risk from failure due to extreme weather events such as hurricanes, floods, mudslides, tornadoes, and earthquakes. A 2011 crude oil spill into the Yellowstone River near Laurel, MT, was caused by channel migration and river bottom scour, leaving a large span of the pipeline exposed to prolonged current forces and debris washing downstream in the river. Those external forces damaged the exposed pipeline. In October 1994, flooding along the San Jacinto River led to the failure of eight hazardous liquid pipelines and also undermined a number of other pipelines. The escaping products were ignited, leading to smoke inhalation and burn injuries of 547 people. From 2003 to 2013, there were 85 reportable incidents in which storms or other severe natural force conditions damaged pipelines and resulted in their failure. Operators reported total damages of over \$104M from these incidents. PHMSA has issued several Advisory Bulletins to operators warning about extreme weather events and the consequences of flooding events, including river scour and river channel migration. From PHMSA Gas Pipeline proposed rulemaking

- BLM did not consider the pipeline safety impacts on hikers, campers...
 - Example: On August 19, 2000, a 30-inch-diameter gas transmission pipeline ruptured adjacent to the Pecos River near Carlsbad, NM. The released gas ignited and burned for 55 minutes. Twelve persons who were camping under a concrete-decked steel bridge that supported the pipeline across the river were killed, and their vehicles were destroyed. Two nearby steel suspension bridges for gas pipelines crossing the river were damaged extensively.
- BLM did not consider forest fire risks from pipeline explosions:
 - Example: On December 11, 2012, a 20-inch-diameter gas transmission line ruptured in a sparsely populated area about 106 feet west of Interstate 77 (I-77) in Sissonville, WV. An area of fire damage about 820 feet wide extended nearly 1,100 feet along the pipeline right-of-way. Three houses were destroyed by the fire, and several other houses were damaged. Reported losses, repairs, and upgrades from this incident totaled over \$8.5 million, and major transportation delays occurred. I-77 was closed in both directions because of the fire and resulting damage to the road surface. The northbound lanes were closed for about 14 hours, and the southbound lanes were closed for about 19 hours while the road was resurfaced, causing delays to both travelers and commercial shipping.
- BLM did not consider lack of pipeline safety inspections:
 - Example: The National Association of Pipeline Safety Representatives, an association representing state pipeline safety officials, produced a compendium of state pipeline regulations showing that most states with delegated authority from PHMSA to conduct intrastate inspections do not have expanded regulations that cover increased oversight of gathering companies building gathering pipelines in rural areas are generally not subject to inspection and do not have to report the location and characteristics of much of the gathering pipelines being installed. (GAO 2014 report: <http://www.gao.gov/assets/670/665404.pdf>)
- Deficient methods to export gas from the North Fork Valley and environs.

Roads and Traffic

- Inadequate funding and maintenance for roads and infrastructure damaged by high-volume transport of drilling materials, frack fluids, and waste-water.

Food Security/Agriculture:

- Risk to farming operations and the broader economic viability of the North Fork.
- Risk to apiary operations, commercial and private.
- Risk to the hundreds of thousands of people who depend on produce and meat from the NFV in grocery stores, farmers markets and grocery stores around the state.

Cost to Local Government

- Increased demand on local services, including law enforcement, volunteer fire and EMS, and housing.
- Increased road repair
- Increased public health care

Climate Change

- Risk of accelerating climate change by contributing methane and other greenhouse gases into the atmosphere.
- Impact of climate change acceleration on agriculture, wildlife migration and habitat

Contradictions Within the RMP

- The draft RMP repeatedly describes how fluid mineral development would negatively impact, to some unknown degree, other resources such as wildlife habitat and migration corridors, grazing land, soil productivity, vegetative diversity, special status fish and aquatic wildlife, air quality, and visual resources, as well as non-market values including ecosystem services, natural amenities, scenic beauty, human health, quality of life, and sense of place.
- The draft RMP estimates that ecosystem services in the planning area could provide up to \$1,492 million in value. (4-461)
- The draft RMP states that natural amenities like proximity to wilderness areas, national parks and other special protection areas have a positive impact on tourism, property values, population growth due to positive net migration, higher incomes, and employment growth.
- The draft RMP states that approving an alternative that emphasizes “resource development over conservation likely would result in more impacts on nonmarket values and how planning area individuals perceive their own quality of life.” (4-460)

The Human and Community Dynamic

- Decreases in residential, farm, and ranchland property values.
- Decreased quality of life for Valley residents.
- Destruction of a local economy the community invested in transitioning to organic agriculture, agri-tourism, recreation, and renewal energy.